General Health Related Quality of Life for Renal Transplant Patients Among a Sample at Transplantation Center-Medical City in Baghdad

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Abstract

The aim: Study objectives to discover collision scenarios status through studying the most properties of general health related-quality of life (GHR-QoL) of renal transplant patients (RTP), to find out relationships among redistribution of an overall evaluation contents of general questionnaire's items regarding WHO QoL – BERF with some related variables concerning studied patients, such as, (Socio-Demographical Characteristics variables, and Body Mass Index-BMI). Materials and methods: A descriptive study of patients had a renal transplantation conducted, and it was starting the data collection from 3 January to 30 June 2021 in "renal diseases and transplantation center in medical city in Baghdad –Iraq". Results: The findings of the study indicated that (GHR-QoL) for the studied patients are assigned at a moderate response generally, and they are accounted for the contents questionnaire (Physical, Psychological, Social, and Environmental) main domains. As well as, results show that an overall of the (GHR-QoL) redistribution (under/upper) a cutoff point regarding percentile global mean of score (PGMS) that (SES, and BMI) has reported weak relationships with no significant at P>0.05. Conclusion: Study showed that patients with renal transplant having go down concerning GHR-QoL, since most of studied items regarding of WHO QoL – BERF questionnaire are accounted a moderate evaluation, and this were achieved to a similar degree across all domains of that questionnaire. In light of this, the importance of studying the health status evaluation for health related quality of life with renal transplant patients is confirmed, according to the aforementioned questionnaire, due to its high ability to detect the reservoirs of the effects caused by studied patients.

Keywords: Renal Transplant Patients, General Health Related-Quality of Life (GHR-QoL) Questionnaire's Kidney Transplant, Patients with end-stage renal disease (ESRD).

1. Introduction

Quality of life (QoL), as an outlined by the World Health Organization model, is actually a multidimensional notion that concerns an individual's usual or expected physical, psychological, social, and spiritual well-being [1]. Health-related quality of life (HRQoL) reflects the welfare of patients based on their functional status in physical, mental, and social domains, balanced with expectations and experiences in the face of a changing health status. Because of its importance as a critical measurement of the overall well-being of patients with end-stage renal disease ESRD, the centers for Medicare & Medicaid services has mandated that the HRQoL of patients on dialysis or had renal transplant to be evaluated on an annual basis, [2].

Renal transplant is one of modality of treatment of kidney. Patients with (ESRD) are living with the consequences of chronic disease. Their QoL can be significantly affected by the different types of medical treatments, as well as personal feelings and experiences. Renal transplantation, in turn, keeps patients with ESRD hoping for a relatively normal life, free of the limitations associated with chronic disease. Patients with ESRD expect an improvement in their QoL in all aspects of their life following renal transplantation failure [3].

Kidney transplantation is the preferred treatment for patients with ESRD, because it is associated with better survival, better quality of life, and lower use of health care resources compared with treatment with dialysis [4]. GHR-QoL investigations take a broad view on subjective health issues and consider health as a puzzle of singular domains of well-being. The pieces of this puzzle are psychological and social aspects of well-being in addition to physical and mental health. Some of these pieces are evaluated on either a subjective or an objective basis, some domains by both dimensions [5].

Aim of the study

To identify the general Health related quality of life concerning with renal transplant patients.

To find out relationships among general health related quality of life and socio demographical variables for kidney transplant patients with some related variables of the studied patients such as (Age, Marital status, Educational, Occupation, Residency, and Socio-Economic Status-SES, and body mass index-BMI).

2. Materials and Methods

Setting of the study

A descriptive study of patients had kidney transplantation conducted, and it was starting the data collection from 3 January to 30 June 2021 in "Renal diseases and Transplantation Center in Medical city, Baghdad –Iraq".

The sample of the study

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This study was conducted on a convenient sampling of (100) patients who visited to that center during the data collection period of data selected.

Steps of the study

For evaluate renal transplant patients, appropriate instrument is selection for study of subjects, namely, (GHR-QoL), questionnaires format regarding "Health World Health Organization–WHO QoL-BERF", which consists of 26 items formed four main domains, "Physical, Psychological, Social, and Environment", as well as two questions for rating and satisfying patients of QoL generally.

Pilot study

Reliability of the questionnaire was used to determine the accuracy of the questionnaire, since the results showed very good level of stability and internal consistency for (GHR-QoL), at the level of items of the studied questionnaire, which estimated by Alpha Cronbach indicator (α =0.8556), as well as inter examiners, and intra examiner for reliability coefficients estimation concerning the researchers, and the patients, and accounted 96.52%, and 95.73% respectively, through applying Al- Naqeeb formula.

Statistical Analysis

Statistical data analysis approaches were used in order to analyze and assess the results of the study under application of the statistical package (SPSS) ver. (22.0), through using followings statistics: Mean of score (MS), Standard Deviation (SD), Relative Sufficiency (RS%), Percentile Grand/or Global Mean of Score (PGMS), Pooled Standard Deviation (PSD%), Pooled Standard Error (PSE%), Two extreme responding (Minimum, and Maximum). In addition to that, a contingency coefficient was applied for estimating cause correlation ships between redistribution of overall evaluation contents of general questionnaire's items regarding general HR-QoL with some related variables concerning of studied patients.

Results and Findings

Elementary Variables

Table (1) shows distribution of studied "Socio-Demographical Characteristics variables-(SDCv.), and Anthropometric Characteristics through Body Mass Index-BMI" of patients with a "Renal Transplant-RT", included the observed frequencies, and a cumulative percents.

Table (1): Distribution of the studied sample according to (SDCv.) Observed Frequencies and Cumulative Percents

SDCv.	Classes	No.	Cum.%
Gender	Male	74	74
	Female	26	100
Age Groups	< 20	7	7
	20 _ 29	13	20
	30 _ 39	18	38
	40 _ 49	28	66
	50 _ 59	26	92
	60 >	8	100
	Mean ± SD	41.97 ± 13.82	
Marital Status	Single	18	18
	Married	75	93
	Divorced	4	97
	Widow	2	99
	Separated	1	100
SDCv.	*Classes*	*No.*	*Cum.%*
Education level	Illiterate	7	7
	Read & Write	6	13
	Primary	25	38
	Intermediate	22	60
	Secondary	21	81
	College & More	19	100
Occupation	High professional	8	8
	Lower professionals	29	37
	Unskilled workers	63	100
Residency	Urban	92	92
	Rural	8	100
Socio-Economic Status SES	< 60 (Low)	48	48
	60-80 (Moderate)	38	86
	> 80 (High)	14	100
	Total	100	-
Body Mass IndexBMI	Under weight	3	3
	Normal weight	34	37
	Overweight	42	79
	Obese	21	100
	Total	100	-
	Mean ± SD	26.77 ± 4.86	

Most of studied patients were from male and accounted (74%), "Age groups" shows that more than third of studied sample were recorded less than 40 yrs. age old, and were accounted (38%), as well as mean value and standard deviation are estimated by 41.97 yrs., and 13.82 yrs. respectively, as well as (75%) of studied sample has married status. More than half of studied sample were recorded their educational levels at primary school or less,,and accounted (60%), and most of them has unskilled worker, and accounted (63%), urban residency are content (92%) among the studied sample, socio-economic status shows that half of studied sample were below the poverty line and accounted 48%, and finally those of recording BMI at the levels of overweight and obese were two third of studied sample and accounted 63%.

Table (2) shows the observed frequencies, of "Health related" markers, of studied cases with comparisons significant.

Table (2): Distribution of the studied sample according to Some Health Related Markers with comparisons significant (N=100)

General Information-Health related markers	Response	No. and %	C.S. (*)P-value
Loss of appetite	Yes	12	P=0.000HS
	No	88	

Weight Loss	Yes	6	P=0.000HS
	No	94	
General weakness	Yes	8	P=0.000HS
	No	92	
Family Related	Yes	36	P=0.000HS
	No	64	
Diabetes Mellitus	Yes	26	P=0.000HS
	No	74	
Hypertension	Yes	45	P=0.333NS
	No	55	
General Information-Health related markers	*Response*	*No. and %*	*C.S.(*)P-value*
Thyroid disease	Yes	2	P=0.000HS
	No	98	
Anemia	Yes	4	P=0.000HS
	No	96	
Cancer after kidney transplant	Yes	1	P=0.000HS
	No	99	
Chronic heart disease	Yes	4	P=0.000HS
	No	96	
Hepatitis	Yes	1	P=0.000HS
	No	99	
Polycystic Kidney Disease(PKD)	Yes	6	P=0.000HS
	No	94	
Chronic Glomerulonephritis	Yes	6	P=0.000HS
	No	94	
Chronic Pyelonephritis	Yes	2	P=0.000HS
	No	98	
Renal stones	Yes	9	P=0.000HS
	No	91	
Autoimmune diseases	Yes	6	P=0.000HS
	No	94	
Inherited renal diseases	Yes	16	P=0.000HS
	No	84	
Malformation	Yes	11	P=0.000HS
	No	89	

Regarding to subject of "loss of appetite",12% of the studied sample having morbidity, and 6% having weight loss. About 8% of the studied sample having "General weakness". 36% among the studied patients had a family related. 26% having a "Diabetes Mellitus", and about half of them having a hypertension 45%.

2% of the patients having a thyroid disease. 4% of the studied sample having anemia after kidney transplant, 1% of them had a cancer, 4% having a chronic heart disease. 1% having a hepatitis, 6% of the patients had a polycystic kidney disease, and the same percentage with the chronic glomerulonephritis. 2% of them had a chronic pyelonephritis, about 9% of the studied sample had a renal stone, 6% had autoimmune disease. 16% had inherited renal diseases, and among them the percent of malformation was 11%.

Essential variable

Table (3) shows a summary statistics of an initial evaluation, such that, mean of score, standard deviation, relative sufficiency's, as well as different responding levels of evaluating GHR-QoL through transforming questionnaire's score by three differentiate categories, such that (Low, Moderate, and High) in light of [(20.0 – 46.6), (46.7 – 73.3), (73.3 – 100)] intervals respectively.

General quality of life for studied patients assigned that observed responses are moderate mostly, and they are accounted 20(76.92%), and items of having high level of evaluation are accounted 4(15.39%), leftover item having low evaluation are accounted 2(7.69%).

Table (3): Summary Statistics of patients responding concerning General Quality of Life's items (N=100)

General HRQoL	No.	MS	SD	RS%	Ev.
1. How would you rate your QOL?	100	3.56	0.89	71.2	M
2. How satisfied are you with your health?	100	3.56	0.89	71.2	M
3. To what extent do you feel that physical pain prevents you from doing what you b need to do?	100	2.56	1.21	51.2	M
4. How much you need any medical treatment to function in your daily life?	100	4.47	1.08	89.4	L
5. How much do you enjoy life?	100	2.90	1.07	58.0	M

6. To what extent do you feel your life to be meaningful ?	100	3.36	1.06	67.2	M
7. How well are you able to concentrate?	100	4.31	0.87	86.2	H
8. How safe do you feel in your daily life ?	100	3.59	1.07	71.8	M
9. Ho healthy is your physical environment ?	100	3.57	1.01	71.4	M
10. Do you have enough energy for everyday life?	100	3.18	1.23	63.6	M
11. Are you able to accept your bodily appearance?	100	3.41	1.22	68.2	M
12. Have you enough money to meet your needs?	100	2.55	1.31	51.0	M
13. How available to you is the information that you need in your day to day life?	100	2.85	0.97	57.0	M
14. To what extent do you have opportunity for leisure activities	100	3.08	1.10	61.6	M
15. How well are you able to get around?	100	3.70	1.19	74.0	H
16. How satisfied are you with your sleep?	100	3.68	1.12	73.6	H
17. How satisfied are you with your ability to perform your daily living activities?	100	3.35	1.17	67.0	M
18. How satisfied are you with your capacity for work ?	100	3.12	1.21	62.4	M
19. How satisfied are you with yourself?	100	3.56	1.08	71.2	M
20. How satisfied are you with your personal relationships?	100	3.63	1.13	72.6	M
21. How satisfied are you with your sex life?	100	3.26	1.13	65.2	M
22. How satisfied are you with support you get from your friends?	100	3.69	1.07	73.8	H
23. How satisfied are you with the conditions of your living place?	100	3.47	1.09	69.4	M
24. How satisfied are you with your access to health services?	100	3.23	1.11	64.6	M
25. How satisfied are you with your transport?	100	3.07	1.01	61.4	M
26. How often do you have negative feeling such as blue mood, despair, anxiety, depression?	100	3.89	1.31	77.8	L
RS%: Relative Sufficiency Assess by (L: Low; M: Moderate; H: High). Red color items reversed measuring scale, and that revere an evaluates of using score					

Table (4) show a summary statistics of an initial evaluations, such that, mean of score, standard deviation, and relative sufficiency's, as well as a different responding levels of evaluating GHR-QoL through transforming questionnaire's score by three differentiate categories, such that (Low, Moderate, and High) in light of [(0.00 – 33.33), (33.34 – 66.66), (66.67 – 100)] intervals respectively.

General quality of life for the studied patients assigned that observed responses are moderate.

Table (4): Summary Statistics of Percentile General HR-QoL main domains for the studied patients (N=100)

Main Domains	No.	PGMS	PSD	Ev.
Physical Domain	100	53.57	20.51	M
Psychological Domain	100	56.88	16.22	M
Social Domain	100	63.17	23.09	M
Environment Domain	100	54.41	14.90	M
Overall General Health-Related Quality of life	100	57.00	15.63	M
PGMS: Percentile Grand Mean of Score; PSD: Pooled Standard deviation; PSE: Pooled Standard Error				

Relationships concerning (General HR-QoL)

To find out relationships amongst redistribution of an overall evaluation factor through (under/upper) cutoff point of percentile grand mean of score concerning of GHRQoL of renal transplant patients and their [Socio-Demographical Characteristics] variables, such that: (Age Groups, Marital State, Education, Occupation, Residency, and Socio-Economic Status), as well as an anthropometric characteristics of studied patients using BMI, table (5) shows a contingency coefficients and test hypotheses, which says that a meaningless relationships would be illustrated amongst redistribution of preceding factors. Results shows that weak relationships were accounted amongst redistribution of overall general HR-QoL of renal transplant-RT's patients and their redistributed factor concerning GHR-QoL and mentioned variables related to patients' demographic characteristics and their anthropometric characteristics at P>0.05.

Table(5): Relationships of General HR-QoL Renal Transplant-RT's Patients in light of Socio-Demographical and Anthropometric variables (N=100)

Socio-Demographical and Anthropometric variables	*General –HRQoL*		
	C.C.	P-value	C.S.
Gender	0.130	0.190	NS
Age Groups	0.233	0.335	NS
Marital Status	0.219	0.285	NS
Education	0.144	0.833	NS
Occupation	0.086	0.688	NS
Residency	0.035	0.728	NS
Socio-Economic Status	0.106	0.565	NS
Body Mass Index-BMI	0.112	0.734	NS
(*) NS: No Sig. at P>0.05; Statistical hypothesis based on Contingency's Coefficient-(C.C.) test. C.S: Comparison Significant			

3. Discussion

To the best of our knowledge, this study is the first attempt to investigate evaluation of the GHR-QoL regarding RT's patients in Iraq, for assessing the general health status

for quality of life. Most kidney transplant recipients were males, with a percentage of (74%), their mean age was 41.97 yrs., and this was agreed with other study in Sulaymaniyah –Iraq [6], it was observed that most of the participants (74%) were young adults aging up to 25 years with a mean age of 39.6 yrs. with (SD=15.8), another study in Palastain, by [7] which showed that the mean age was (41 ± 24) yrs., and establishes that most kidney transplant recipients were at the middle age of their life.

As well as (75%) of studied sample has married. This study is accepted with a study in china, by Zhao et al. [8], which showed that many recipients remained or became married after transplantation (72.3%).

More than half of studied sample were recorded their educational levels at primary school or less, and they were reported (60%). Most of studied patients in the present study was unskilled worker, and were reported (63%), this result is agreed with a study which found that the percentage of completed lower education was (54.5%), and those who didn't work (disabled/retired/student/unemployed/other) was (63%), by Dahl et al. [9].

About residency, urban was reported (92%) among studied sample. This was disagreed with other study in Duhokcity, by Jabali et al. [10], which showed that the percentage of urban was (57.6%) because of the differences of the demographical distribution in thatcity,another study in Iran found that(66.7%) were urban lived [11].

Vast majority of the studied sample SES had at low, and moderate levels, and they are accounted cumulative percent (86. 0%).This results were similar to result of a research in Iran that represented (85%) of interviews were living below poverty line. As many of them did not have any job, by Roozbeh et al. [12].

Overweight and obesity result are accounted (63.0%) with mean (26.77 kg/m2), this study agreed with other study in Germany, by Andrews et al. [13], with the mean BMI was (25.9 kg/m2). Changes in body composition after renal transplantation are due to increased appetite and reversal of the uremic state, as well as to the immunosuppressive treatment.

The etiology of Hypertension in transplant recipients is complex and multi- factorial, including use of essential immunosuppressive medications, which recorded (45%), and no significant different are accounted at P>0.05.

"Diabetes Mellitus" marker, where was the percent of patients with diabetes is (26%), this agreed with other study which showed that that "Diabetes Mellitus" marker in KTR was (23.6%), by Tsarpali et al. [14]. Another study in India, by Gautam et al. [15], showed that "Diabetes Mellitus" marker is a major morbidity after kidney transplantation and as such warrants attention.

Kidney transplant have a decline in general quality of life, since most of studied items with respect to WHO QoL-BERF questionnaire are moderately undercounted, and this agreed with a study showed that the mean score of physical component summary was (50.23), by Tarabeih et al. [16].

Weak relationships were accounted amongst redistribution of GHR-QoL patient's responding and socio-demographical and anthropometrical characteristics patient's BMI variables, since the majority of the studied patients had poor diagnosed GHR-QoL due to a cutoff point, and they are accounted (68%), which led to the random distribution of these variables by classifying the two types of quality (under/upper) cutoff point, and that in agreement with a study showed that QoL for kidney transplant patients was moderate, with no significant relationships was observed (P>0.05) between the sociodemographic variables and QoL [7].

4. Conclusions

1. According to the present study results findings shows the following conclusions:
2. Anthropometric characteristics which represented by (BMI), shown that most numbers of patients with an overweight and obesity, and were forming about two third of the studied sample, and this confirms the extent of impact body weight gain as an outcome of imbalances resulted by two main causes of Renal Artery Stenosis
3. : Accumulations in the arteries of the kidney (renal arteries). Fats, cholesterol and- (RAS) other substances (plaques) can build up in and on the walls of the kidney's artery (Atherosclerosis). As they grow in size, these buildups can harden, reduce blood flow, and cause the kidneys to scar and eventually narrow the artery. Atherosclerosis affects many areas of the body and is the most common cause of-(RAS).
4. Patients with renal transplant-RT having go down concerning general health related QoL, since most studied items regarding WHO QoL–BERF questionnaire are accounted a moderate responding.
5. WHO QoL– BERF questionnaire can be amend for studied phenomena on the target patients' population rather than differences among who had renal transplant-RT's patient's socio-demographical characteristics and anthropometrical characteristic through patient's BMI variables.
6. This study is the first study assessing GRH-QoL among kidney transplant of Iraq's patients; this data will serve as baseline measurement for future QoL evaluation.

Author's Contributions

This work was carried out in collaboration among authors: The first author (Al-Naqeeb,Abdulkhaleq A Ali Ghalib) finding the idea of the research, Design the study with the objectives, selected of the studied questionnaire, analysis and finding the results, discussion of results, and approved the final manuscript, as well as reviewing the article. The second author (Shatha A Atrah) has carried out the introduction, discussion, as well as reviewing the article.The third author (Dalia Jasem) has carried out the introduction, discussion and conclusions (in collaboration with the other authors), as well as the data collection.

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